

Claims

[c1] 1. A seal puller tool adapted for entering an interface between a shaft seal and a sealed shaft to pull the seal, comprising:

a generally planar shank having opposite proximal and distal ends, a bottom face and a top face, and opposite side edges including a hook-facing side edge and a backside edge;

a seal-engaging hook located on the distal end of said shank, disposed with a free end at least partially offset above the top face of the shank, such that, in use, said free end is positionable behind the shaft seal while the shank is disposed with said bottom face against the shaft; and

an attachment base connected to the proximal end of the shank.

[c2] 2. The seal puller tool of Claim 1, wherein:

said hook and said shank are portions of a unitary blade having distal and proximal ends and opposite side edges; and

the hook is defined by a notch in one of said side edges and near the distal end of the blade.

- [c3] 3. The seal puller tool of Claim 2, wherein:
said blade is formed of generally planar metal sheet stock; and
said hook is elevated above the top face of the shank by a bend in the metal sheet stock.
- [c4] 4. The seal puller of Claim 3, wherein:
said bend is located between the shank and the hook;
and
the bend is chosen from the group consisting of a twist, a tilt, an offset, or any combination of these.
- [c5] 5. The seal puller of Claim 1, further comprising:
a scratch-protective coating on said shank for protecting against scratching of a sealed shaft during use of the tool.
- [c6] 6. The seal puller of Claim 5, wherein:
said scratch-protective coating is formed of a material chosen from the group consisting of rubber, urethane, cured plastic resin., resilient mesh, or any combination thereof.
- [c7] 7. The seal puller of Claim 1, further comprising:
a wear strip at least partially covering said backside edge for protecting against scratching of a sealed shaft during use of the tool.

- [c8] 8. The seal puller of Claim 1, further comprising:
an elongated lever connected to said attachment base
for manipulating said hook.
- [c9] 9. The seal puller of Claim 8, wherein:
said shank is longitudinally elongated between said
proximal and distal ends;
said lever is connected to the attachment in longitudinal
alignment with the shank; and
the lever further comprises a slide hammer.
- [c10] 10. The seal puller of Claim 8, wherein:
said shank is longitudinally elongated between said
proximal and distal ends;
said lever is connected to the attachment base in an ori-
entation relative to the shank chosen from the group
consisting of longitudinal; transverse and coplanar with
the shank, extending from the hook-facing side edge; or
transverse and coplanar with the shank, extending from
the backside edge.
- [c11] 11. The seal puller tool of claim 8, wherein:
said elongated lever is joined to said attachment base by
a connection device chosen from the group consisting of
a threaded socket, a straight socket of limited engage-
ment, a straight socket with through bore, a pressure

clamp, a positive lock, or any combination thereof.

[c12] 12. The seal puller tool of Claim 8, further comprising:
a fulcrum; and
a fulcrum base carrying said fulcrum;
wherein said elongated lever carries the fulcrum base in
a position suitable for applying a prying force via said
hook.

[c13] 13. The seal puller tool of Claim 12, wherein:
said elongated lever is joined to said fulcrum base by a
connection device chosen from the group consisting of a
straight socket with through bore, a pressure clamp, a
positive lock, or any combination thereof.

[c14] 14. A seal puller tool adapted for entering an interface
between a shaft seal and a sealed shaft to pull the seal,
comprising:
a longitudinally elongated planar sheet metal blade hav-
ing a notch formed in an edge thereof, defining a seal-
engaging arm located at a first longitudinal end of the
blade and disposed transversely to the longitudinal di-
mension of the blade;
an attachment base connected to the second longitudinal
end of said blade and defining at least one connection
means for receiving a lever; and
a lever engageable with said connection means for ma-

nipulating said seal-engaging arm.

- [c15] 15. The seal puller tool of Claim 14, wherein:
said seal-engaging arm is disposed via a bend area to one side of the plane of said blade by an acute angle.
- [c16] 16. The seal puller tool of Claim 14, wherein:
said seal-engaging arm is disposed via a bend area to one side of the plane of said blade by an acute angle in the range from ten degrees to sixty degrees.
- [c17] 17. The seal puller tool of Claim 14, wherein:
said seal-engaging arm is disposed to one side of the plane of said blade by a bend in said blade located in a bend area juxtaposed to the seal-engaging arm; and
the bend is chosen from the group consisting of a twist, a tilt, an offset, and any combination of these.
- [c18] 18. The seal puller tool of Claim 14, wherein:
said seal engaging arm includes a free end disposed near a lateral edge of said blade; and
said free end of the arm is chamfered.
- [c19] 19. The seal puller tool of Claim 14, wherein:
said seal engaging arm is of approximately uniform width in its transverse disposition to the blade.
- [c20] 20. The seal puller tool of Claim 14, wherein:

said seal engaging arm is tapered from a narrower free end to a broader base in its transverse disposition to the blade.